

**Mental Health, Developmental Disabilities and
Substance Abuse Related Admissions in Community
Hospital Emergency Departments**

**Annual Report
State Fiscal Year 2008-09**

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NC DMH/DD/SAS

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*Mental Health, Developmental Disabilities, and Substance Abuse Related Admissions in Community
Emergency Departments, Annual Report, SFY 2008-09*

Report Summary:

The report responds to General Statute 112C-147.1.1 Section 10.49(r) and reports on patterns of admissions of individuals with mental health, substance abuse and developmental disability diagnoses seen in community hospital emergency departments during fiscal year 2008-09. Graphs and tables depicting the patterns of emergency department admissions for the 4th quarter of 2008-09 are given in Appendix A. Emergency Department data for the entire fiscal year 2008-09 allows for the estimation of both primary and secondary diagnoses admissions for behavioral health (mental health and substance abuse) and /or developmental disabilities at both State and County levels.

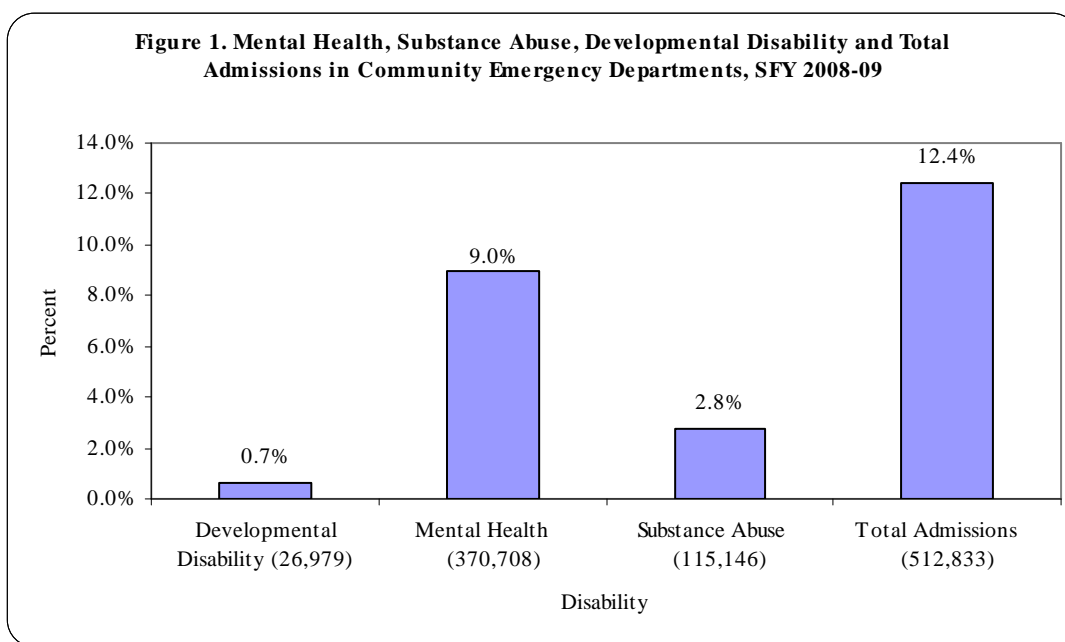
- During state fiscal year 2008-09 persons seen in community hospital emergency departments in North Carolina include 370,708 individuals with mental health diagnoses, 115,146 individuals with substance abuse diagnoses and 26,979 individuals with developmental disability diagnoses. These individuals included those who had behavioral health or developmental disability as ‘primary’ diagnoses as well as those who had these three disabilities among ‘any listed’ diagnoses. They represented 12.4% of all patients seen in emergency departments during the year.
- The total admissions for individuals with any of the three diagnoses were 12.4% in SFY 2008-09 compared to 11.3% in 2007-08. Accounting for the changes in the list of ICD-9 codes used to identify an individual with a developmental disability diagnosis from SFY08 to SFY09, the increase translates to an additional 43,000 individuals with a behavioral health or developmental diagnosis seen in emergency departments of community hospitals through the course of the year. Similar increase was seen in all emergency department admissions and not just in behavioral health and developmental disability admissions.
- When *only* those individuals with behavioral health or developmental disability as a ‘primary’ diagnosis are included, there were 87,263 individuals with mental health diagnoses, 31,156 individuals with substance abuse diagnoses and 2,844 individuals with developmental disabilities diagnoses seen in local community hospital emergency departments during this time. These individuals accounted for 2.9% of all emergency department admissions.
- Most of those seen were adults with mental health (344,802) and substance abuse (112,582) diagnoses. However, the numbers of children and adolescents were not negligible. A total of 25,906 children with mental health diagnoses and 2,564 children with substance abuse diagnoses were seen in local community hospital emergency departments. Also, 14,542 adults and 12,437 children with developmental disability diagnoses were seen in emergency departments during the year.
- More women (233,293) than men (137,415) with mental health diagnoses sought care in emergency departments, whereas the proportion of men (75,682) admitted with substance abuse diagnosis were almost double that of women (39,464). Among those with developmental disabilities more men (15,398) were seen compared to women (11,581).

- Statewide, 399 persons with mental health diagnoses were admitted to an emergency department for every 10,000 persons in the population during the fiscal year; the statewide rate for persons with substance abuse diagnoses was 124 per 10,000 persons; the statewide rate for persons with developmental disability diagnoses was 29 per 10,000 persons.
- The rate of mental health and substance abuse admissions varied widely among the 24 LME catchment areas. Western Highlands LME continues to report the highest rate for emergency department admissions for individuals with a mental health diagnosis (692.6 per 10,000) while Southeastern Regional LME reported the highest rate (196.2 per 10,000) of admissions with a substance abuse diagnosis.
- Guilford Center for Behavioral Health and Developmental Disabilities continues to have the lowest rate of admissions (223.6 per 10,000 population) for individuals with a mental health diagnoses and Wake County Human Services (84.1 per 10,000 population) had the lowest rates for admissions with substance abuse diagnoses for the year.
- Guilford Center also had the lowest rate of developmental disability admissions (10.7 per 10,000 population), while Western Highlands had the highest rate at 47.1 per 10,000 population.
- The rate of emergency department admissions by county ranged from 42.3 per 10,000 population in Lenoir County to 405.6 per 10,000 population in McDowell County for admissions with behavioral health and/or developmental disability as a primary diagnosis. McDowell had the highest rate of admissions (1216.4 per 10,000) with behavioral health and/or developmental disability among 'any listed' diagnosis. Gates County had the lowest rate at 119.8 per 10,000 population.
- Information on where people go after being discharged (disposition) from an emergency department can often be misleading or misclassified. However, of the 488,610 people for whom this information was available, 2.6% were admitted to the psychiatric unit of the hospital and 5.8% were transferred to other institutions.

The Mental Health, Developmental Disabilities, and Substance Abuse Related Admissions in Community Hospital Emergency Departments Report provides information on the emergency department admissions for individuals with mental health, substance abuse and developmental disability diagnoses. The document is in response to the General Statute 112C-147.1.1 Section 10.49(r). This report, the eighth in the series, presents information for fiscal year 2008-09 as well as for the 4th quarter of 2008-09.

The emergency department admissions information gathered through the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is received by the Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMH/DD/SAS) through a data sharing agreement with the North Carolina Division of Public Health. The data are provided to the DMH/DD/SAS as an aggregate file, which includes the total number of admissions by disability status, age group and gender by LME and total admissions by county. The individuals that are represented in the report are those who had a mental health, substance abuse or developmental disability ICD-9¹ code indicating their diagnosis. Detailed explanation of the data source is available in Appendix C.

Emergency Department Admissions

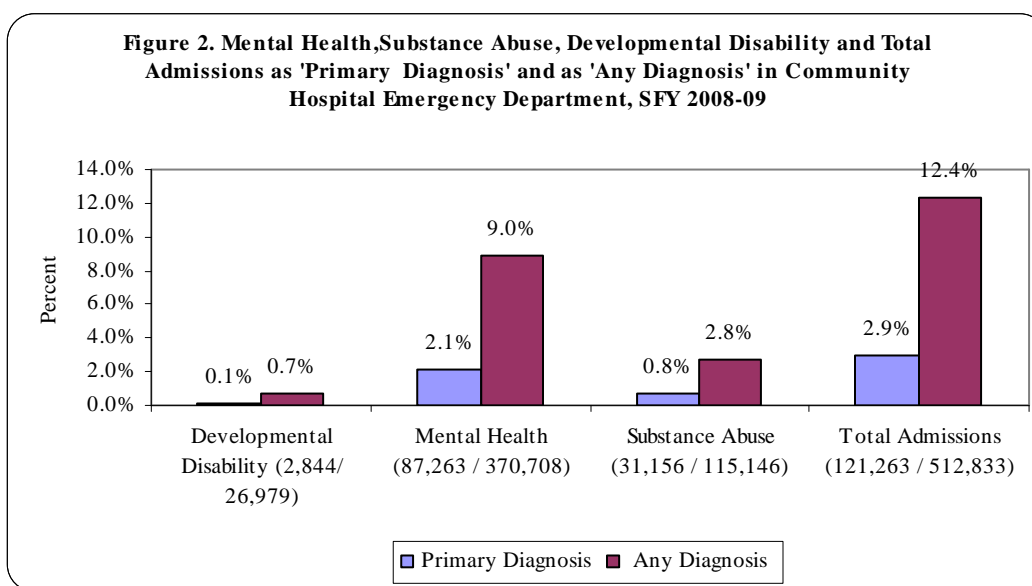


The data presented above (Figure 1) show the proportion of individuals who were admitted to a community hospital emergency department with a mental health, substance abuse or developmental

¹ The **International Statistical Classification of Diseases and Related Health Problems** (most commonly known by the abbreviation **ICD**) provides codes to classify [diseases](#) and a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or disease. Every health condition can be assigned to a unique category and given a code, up to six characters long. Such categories can include a set of similar diseases.

disability as any of the listed diagnoses. The percentage is calculated as a proportion of the total admissions (4,132,897) for all causes to emergency departments during fiscal year 2008-09.

The total number of admissions for individuals with a mental health diagnosis during fiscal year 2008 was 370,708. During the same time frame, 115,146 individuals with a substance abuse diagnosis and 26,979 individuals with a developmental disability diagnosis were seen in community hospital emergency departments. The pattern of admissions for the year was consistent with the pattern displayed over the previous quarters of the fiscal year. Of all emergency department admissions, 9% and 2.8% were individuals who had a mental health or substance abuse diagnosis respectively. In comparison, the proportion of individuals with developmental disability diagnosis was 0.7 %. The total admissions for individuals with any of the three diagnoses for the year were 12.4% compared to 11.3% in 2007-08. Accounting for the changes in the list of ICD-9 codes used to identify an individual with a developmental disability diagnosis from SFY08 to SFY09, the increase translates to an additional 43,000 individuals with a behavioral health and developmental diagnosis seen in emergency department of community hospitals through the course of the year.

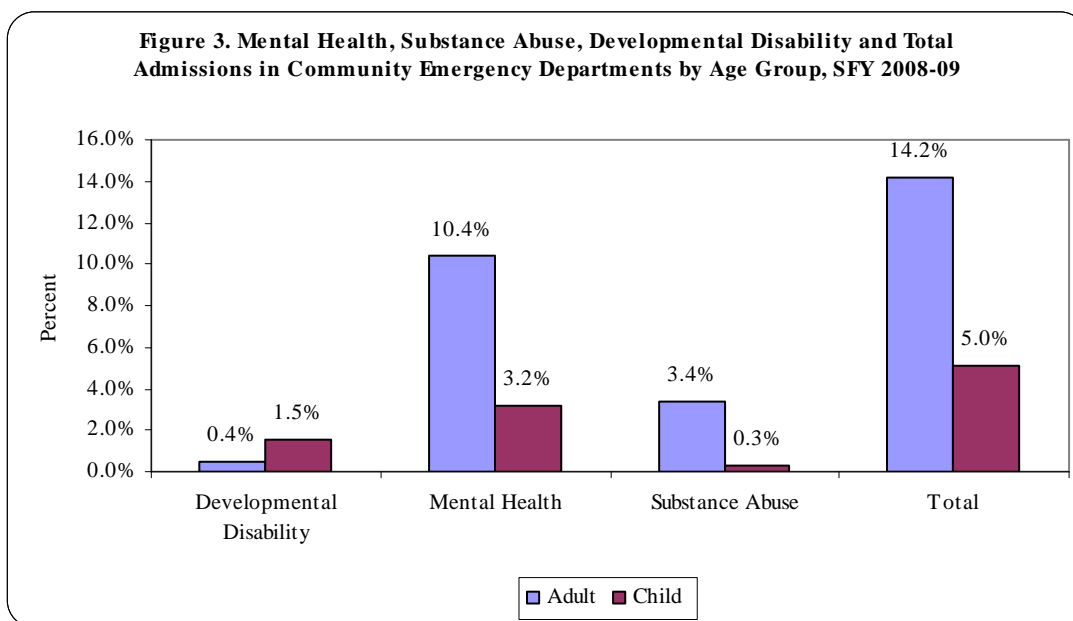


Source: NC DETECT, SFY 2008-09

Figure 2 presents a comparison of individuals who had mental health, substance abuse or developmental disability listed as the primary diagnosis for the emergency department visit with those who had these diagnoses as any of the listed diagnoses. The graph demonstrates that the percentage of individuals who had a primary behavioral health or developmental disability diagnosis represented only a small percentage of the admissions that had the same ICD-9 codes among ‘any listed’ diagnoses. When only the primary diagnosis is considered, 2,844 persons with a developmental disability, 87,263 persons with a mental health disability and 31,156 persons with a substance abuse disability were admitted to a

community hospital emergency department in the State. These individuals, with a primary diagnosis, represent only 2.9% of all emergency department admissions during the quarter, compared to the 12.4% of individuals where behavioral health and /or developmental disability were either a primary or any listed diagnosis.

Figure 3 shows the percentage of adult and child admissions for each disability to local emergency departments where mental health, substance abuse and developmental disability were among any of the listed diagnoses.



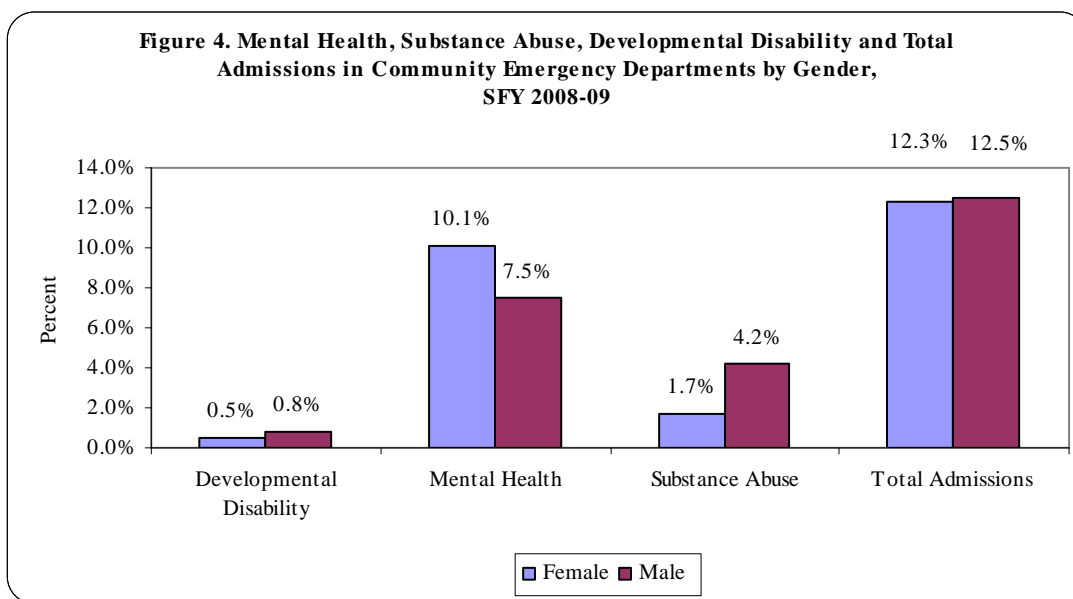
Source: NC DETECT, SFY 2008-09

Note: Percentages are calculated of all adult and all child admissions separately.

Of all adult admissions that were made in community hospital emergency departments, 0.4 % had a developmental disability diagnosis, 10.4% a mental health diagnosis and 3.4% a substance abuse diagnosis. 14.2% of all adult admissions had behavioral health as a primary diagnosis or any listed diagnosis. Comparatively, only 5% of all child admissions (17 years and under) in community hospital emergency departments had a behavioral health or developmental disability diagnosis. For children, admissions with a substance abuse diagnosis were the lowest with 2,564 admissions, followed by developmental disability with 12,437 and mental health with 25,906 admissions.

Figure 4 shows the distribution of males and females who had a mental health, substance abuse or developmental disability diagnosis seeking care through local emergency departments. The percentages are calculated as proportions of all gender specific admissions emergency department admissions. There was a higher number of females who had a mental health diagnosis (233,293) compared to males (137,415) seeking care, whereas the number of men (75,682) admitted with a substance abuse diagnosis

was almost double that of women (39,464). There were also a higher number of males (15,398) with developmental disability admitted compared to females (11,581).



Source: NC DETECT, SFY 2008-09

Note: Percentages are calculated as a proportion of all gender specific emergency department admissions

Disposition of a consumer refers to the location to which a consumer was discharged from the emergency department. Table 4 shows the disposition of individuals with mental health, substance abuse or developmental disability diagnoses statewide. Disposition status may often not be appropriately captured or may be incomplete in the emergency department data. This information is only available on 488,610 of the 512,833 individuals with a mental health, substance abuse or developmental disability diagnosis seen in a community hospital emergency department during fiscal year 2008-09. Of the individuals on whom information was available 2.6% were admitted to a psychiatric unit of the hospital and 5.8% were transferred to another institution. This could have been a jail, general hospital or any other kind of institution or even a home care facility. 6,932 individuals left the hospital against medical advice and 3,441 left without receiving medical advice from the emergency department.

Table 1. Disposition of Individuals with Mental Health, Substance Abuse and/or Developmental Disabilities Diagnosis Seen within a Local Emergency Department, SFY 2008-09												
Disability	Admitted	ICU	Psych	Died	Dis- charged	AMA	Without Advice	Observe	Other*	Transfer*	Not Known	Grand Total
Dev. Disability	7,071	140	391	38	16,900	130	117	143	72	917	24	25,943
Mental Health	102,703	1,531	8,626	540	206,654	4,778	2,481	2,703	1,500	21,112	634	353,262
Substance Abuse	35,242	800	3,942	112	57,826	2,024	843	973	854	6,668	121	109,405
Total	145,016	2,471	12,959	690	281,380	6,932	3,441	3,819	2,426	28,697	779	488,610

Source: NC DETECT, SFY 08-09;

*Note- Disposition 'Admitted' includes hospital floor, isolation bed, CCU, operating room or diagnostic unit; 'Transferred' includes- transfer to prison, jail, general hospital, another type of institution or to home care ; 'Other' category is not clearly defined.

Table 2, shown below, presents the counts and rates of admission in local emergency departments for individuals with mental health, substance abuse or developmental disability diagnoses (any listed diagnosis) by LME during SFY 2008-09. Rates allow comparison of admissions across Local Management Entities (LMEs), which provide services to counties of varied population sizes and composition. The statewide rate of admissions per 10,000 population for individuals with mental health diagnoses was 399.0 persons, 124.0 per 10,000 for substance abuse and 29.0 per 10,000 for developmental disability for fiscal year 2008-09.

Consistent with data from the previous quarters, Western Highlands LME had the highest rate of admission (692.6 per 10,000) for individuals with mental health diagnoses, followed closely by Mental Health Partners at 608.5 per 10,000 population. Southeastern Regional LME had the highest rate (196.2) of admissions with substance abuse diagnoses for the year. Guilford LME had the lowest rate (223.6 per 10,000 population) of admissions for people with mental health diagnoses and Wake LME had the lowest rate (84.1 per 10,000) of admissions for individuals with substance abuse diagnoses during the quarter.

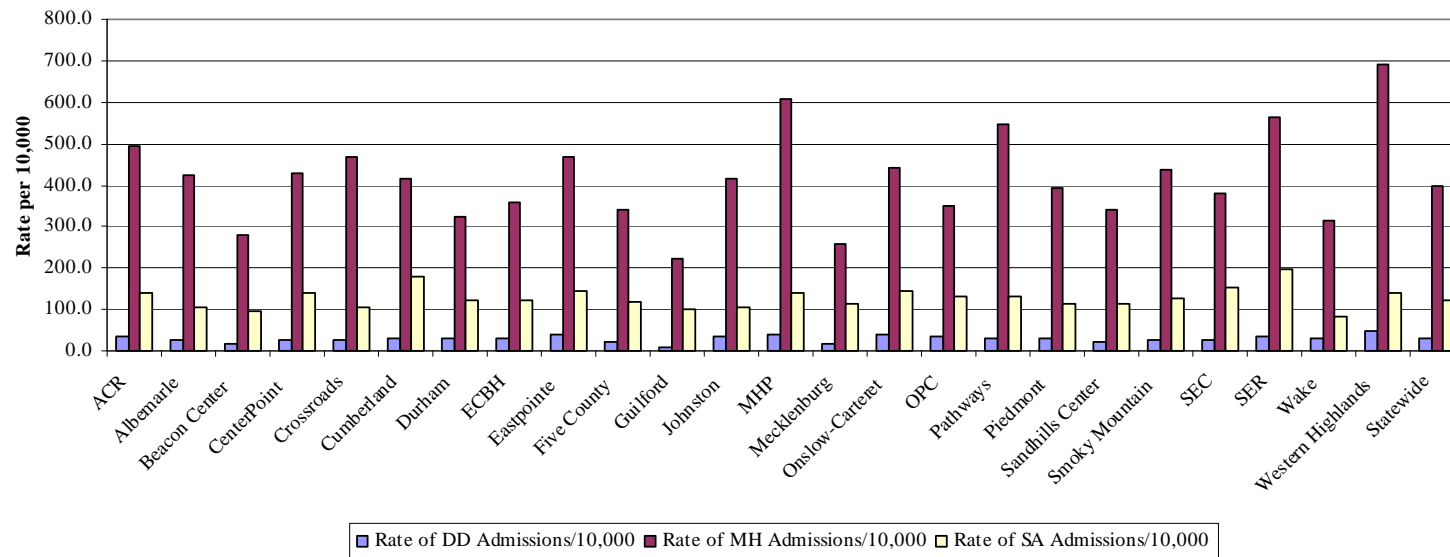
**Table 2. Behavioral Health and Developmental Disability Admissions in Community Hospital Emergency Departments
by Local Management Entity, SFY 2008-09**

LME Name	Developmental Disability (n)	Rate of DD Admissions/10,000	Mental Health (n)	Rate of MH Admissions/10,000	Substance Abuse (n)	Rate of SA Admissions/10,000
Alamance Caswell Rockingham	964	37.0	12,873	494.6	3,692	141.8
Albemarle	463	25.0	7,819	422.8	1,979	107.0
Beacon Center	474	19.3	6,812	278.1	2,392	97.6
CenterPoint	1221	28.3	18,559	429.5	6,131	141.9
Crossroads	660	24.7	12,435	465.9	2,848	106.7
Cumberland	1031	32.8	12,992	413.1	5,604	178.2
Durham	765	29.5	8,405	324.0	3,131	120.7
East Carolina Behavior Health	1,241	31.1	14,369	360.1	4,887	122.5
Eastpointe	1,178	40.3	13,725	469.9	4,236	145.0
Five County	501	21.5	7,897	339.5	2,785	119.7
Guilford	504	10.7	10,485	223.6	4,777	101.9
Johnston	597	36.7	6,720	413.3	1,729	106.3
Mental Health Partners	951	39.0	14,843	608.5	3,456	141.7
Mecklenburg	1,730	19.4	23,037	258.1	10,147	113.7
Onslow-Carteret	891	37.9	10,342	439.9	3,435	146.1
Orange-Person-Chatham	751	33.0	7,949	349.3	2,962	130.2
Pathways	1,176	31.3	20,480	545.1	4,947	131.7
Piedmont	2,220	30.9	28,272	394.0	8,095	112.8
Sandhills Center	1,079	20.1	18,242	340.0	6,033	112.4
Smoky Mountain	1,417	27.3	22,700	437.6	6,504	125.4
Southeastern Center	967	27.6	13,315	379.5	5,428	154.7
Southeastern Regional	930	36.6	14,349	564.6	4,986	196.2
Wake	2,762	31.8	27,329	315.1	7,293	84.1
Western Highlands	2,365	47.1	34,774	692.6	7,064	140.7
Statewide	26,838	29.0	368,723	399.0	114,541	124.0

Source: NC DETECT, SFY 2008-09

Note. LME level totals may differ from statewide estimates due to incompleteness of county level information.

Figure 5. Rate of Behavioral Health and Developmental Disabilities Admissions in Community Hospital Emergency Departments by Local Management Entities, SFY 2008-09



Source: NC DETECT, SFY 2008-09

Abbreviations ACR- Alamance-Caswell-Rockingham; MHP-Mental Health Partners, ECBH- East Carolina Behavioral Health, OPC-Orange -Person -Chatham, SEC- Southeastern Center, SER-Southeastern Regional; WH- Western Highlands

Figure 5 is a graphical representation of the information presented in Table 1, showing the rate of admissions with mental health, substance abuse and developmental disability diagnoses in emergency departments by Local Management Entity for fiscal year 2008-09.

Table 3 presents the number of admissions for individuals with mental health, substance abuse and developmental disability diagnoses by age group (adult and child) for each of the 24 Local Management Entities. The table also gives the counts for emergency department admissions *for all causes* by LME catchment area. The total number of emergency department admissions by LME came to 4,115,940² during the fiscal year.

² LME admissions vary from the state total admissions due to discrepancies regarding information of county of residence. State total ED admissions for Behavioral Health and Developmental Disabilities were 4,115,940 for the year.

Table 3. Behavioral Health and Developmental Disability Admissions in Community Emergency Department by Age Group and Local Management Entity, SFY 2008-09

LME	Developmental Disability			Mental Health			Substance Abuse			All ED Admissions
	Adult	Child	Total	Adult	Child	Total	Adult	Child	Total	
Alamance Caswell Rockingham	448	516	964	11,985	888	12,873	3,622	70	3,692	134,243
Albemarle	274	189	463	7,293	526	7,819	1,880	99	1,979	77,982
Beacon Center	216	258	474	6,265	547	6,812	2,319	73	2,392	136,796
CenterPoint	691	530	1,221	17,362	1,197	18,559	5,987	144	6,131	188,712
Crossroads	370	290	660	11,692	743	12,435	2,781	67	2,848	140,073
Cumberland	498	533	1,031	11,643	1,349	12,992	5,516	88	5,604	126,448
Durham	430	335	765	7,809	596	8,405	3,053	78	3,131	111,498
East Carolina Behavioral Health	603	638	1,241	13,092	1,277	14,369	4,792	95	4,887	194,723
Eastpointe	574	604	1,178	12,570	1,155	13,725	4,109	127	4,236	151,096
Five County	278	223	501	7,473	424	7,897	2,740	45	2,785	129,216
Guilford	305	199	504	9,963	522	10,485	4,695	82	4,777	202,054
Johnston	316	281	597	6,168	552	6,720	1,691	38	1,729	74,026
Mental Health Partners	438	513	951	13,823	1,020	14,843	3,371	85	3,456	125,004
Mecklenburg	1,219	511	1,730	21,950	1,087	23,037	9,982	165	10,147	313,434
Onslow-Carteret	481	410	891	9,463	879	10,342	3,344	91	3,435	87,022
Orange-Person-Chatham	402	349	751	7,371	578	7,949	2,883	79	2,962	70,604
Pathways	562	614	1,176	18,846	1,634	20,480	4,830	117	4,947	206,023
Piedmont	1,080	1,140	2,220	25,973	2,299	28,272	7,846	249	8,095	308,842
Sandhills Center	510	569	1,079	16,934	1,308	18,242	5,894	139	6,033	268,681
Smoky Mountain	760	657	1,417	21,369	1,331	22,700	6,376	128	6,504	251,970
Southeastern Center	543	424	967	12,457	858	13,315	5,342	86	5,428	146,948
Southeastern Regional	422	508	930	13,128	1,221	14,349	4,903	83	4,986	169,323
Wake	1,490	1,272	2,762	25,289	2,040	27,329	7,126	167	7,293	284,329
Western Highlands	1,547	818	2,365	32,989	1,785	34,774	6,901	163	7,064	216,893
Statewide	14,457	12,381	26,838	342,907	25,816	368,723	111,983	2,558	114,541	4,115,940

Source: NC DETECT, SFY 2008-09.

Note. LME level totals may differ from statewide estimates due to incompleteness of county level information.

Table 4. Mental Health, Substance Abuse and Developmental Disability Admissions in Local Emergency Departments by County, SFY 2008-09

County	Behavioral Health and DD as 'Any Diagnosis' (n)	Behavioral Health or DD as 'Primary Diagnosis' Only (n)	Rate of BH and /Or DD as 'Any Diagnosis' /10,000	Rate of BH and /Or DD 'Primary Diagnosis' /10,000	County	Behavioral Health and DD as 'Any Diagnosis' (n)	Behavioral Health or DD as 'Primary Diagnosis' Only (n)	Rate of BH and /Or DD as 'Any Diagnosis' /10,000	Rate of BH and /Or DD 'Primary Diagnosis' /10,000
Alamance	9,051	2,304	623.6	158.7	Jones	648	134	624.9	129.2
Alexander	2,071	561	559.2	151.5	Lee	2,269	1,133	394.6	197.1
Alleghany	1,127	442	1008.5	395.5	Lenoir	1,888	243	328.4	42.3
Anson	1,972	436	783.9	173.3	Lincoln	5,245	862	704.9	115.9
Ashe	442	178	168.0	67.6	Macon	1,074	383	241.7	86.2
Avery	670	165	364.9	89.9	Madison	1,607	476	469.4	139.0
Beaufort	2,388	544	516.2	117.6	Martin	2,377	249	1151.4	120.6
Bertie	841	272	423.8	137.1	McDowell	2,885	962	1216.4	405.6
Bladen	1,605	421	493.6	129.5	Mecklenburg	31,680	7,776	354.9	87.1
Brunswick	5,865	1,380	563.3	132.5	Mitchell	803	237	503.9	148.7
Buncombe	23,897	8,092	1041.6	352.7	Montgomery	801	273	288.7	98.4
Burke	6,184	1,620	698.9	183.1	Moore	3,311	1,253	387.3	146.6
Cabarrus	12,549	2,469	736.0	144.8	Nash	2,283	658	243.3	70.1
Caldwell	5,236	1,413	656.6	177.2	N. Hanover	9,987	3,427	513.3	176.1
Camden	364	209	369.7	212.3	Northampton	962	201	453.7	94.8
Carteret	5,643	573	884.4	89.8	Onslow	7,195	1,278	420.1	74.6
Caswell	880	206	374.5	87.7	Orange	5,698	1,578	441.4	122.3
Catawba	10,871	2,907	699.3	187.0	Pamlico	685	137	528.9	105.8
Chatham	1,743	588	287.9	97.1	Pasquotank	2,579	1,416	617.0	338.8
Cherokee	1,352	389	491.4	141.4	Pender	1,513	504	290.2	96.7
Chowan	710	247	480.9	167.3	Perquimans	728	341	558.0	261.4
Clay	383	86	362.3	81.4	Person	2,503	342	659.9	90.2
Cleveland	9,820	2,509	1011.1	258.3	Pitt	4,287	2,062	276.3	132.9
Columbus	3,093	443	569.8	81.6	Polk	654	216	343.5	113.4
Craven	7,730	1,481	794.1	152.1	Randolph	6,297	1,348	448.1	95.9
Cumberland	16,861	5,664	536.2	180.1	Richmond	2,390	938	510.1	200.2
Currituck	698	395	286.4	162.1	Robeson	10,740	1,935	823.6	148.4

County	'Any Diagnosis' (n)	'Primary Diagnosis' Only (n)	'Any Admissions' /10,000	'Primary Admissions' /10,000	County	'Any Diagnosis' (n)	'Primary Diagnosis' Only (n)	'Any Admissions' /10,000	'Primary Admissions' /10,000
Dare	1,412	471	409.4	136.6	Rockingham	5,689	1,358	620.8	148.2
Davidson	7,208	1,573	457.2	99.8	Rowan	6,039	2,395	438.8	174.0
Davie	1,459	414	352.9	100.1	Rutherford	5,225	1,870	830.8	297.3
Duplin	2,190	452	407.5	84.1	Sampson	3,924	463	601.6	71.0
Durham	10,957	2,666	422.4	102.8	Scotland	2,682	300	726.3	81.2
Edgecombe	1,418	495	276.6	96.5	Stanly	2,249	1,063	379.0	179.1
Forsyth	18,925	5,839	549.6	169.6	Stokes	2,620	650	564.6	140.1
Franklin	2,648	380	459.1	65.9	Surry	5,912	717	803.8	97.5
Gaston	9,132	4,093	447.2	200.5	Swain	800	232	567.5	164.6
Gates	145	84	119.8	69.4	Transylvania	1,344	412	431.9	132.4
Graham	415	98	507.4	119.8	Tyrrell	82	26	189.5	60.1
Granville	2,191	395	388.3	70.0	Union	6,703	1,416	348.3	73.6
Greene	567	143	267.2	67.4	Vance	1,465	195	335.8	44.7
Guilford	14,118	6,540	301.1	139.5	Wake	33,718	4,605	388.8	53.1
Halifax	3,122	804	567.6	146.2	Warren	546	77	274.6	38.7
Harnett	4,504	996	414.0	91.5	Washington	161	38	122.3	28.9
Haywood	5,367	977	936.2	170.4	Watauga	1,533	475	339.7	105.3
Henderson	5,053	1,569	484.5	150.4	Wayne	9,117	717	788.4	62.0
Hertford	381	203	160.4	85.5	Wilkes	3,000	1,887	445.3	280.1
Hoke	1,409	521	316.4	117.0	Wilson	4,530	1,226	575.9	155.9
Hyde	225	55	417.4	102.0	Yadkin	1,532	481	401.6	126.1
Iredell	7,164	1,545	461.6	99.6	Yancey	1,065	282	568.1	150.4
Jackson	1,466	377	393.1	101.1					
Johnston	7,914	1,421	486.7	87.4					

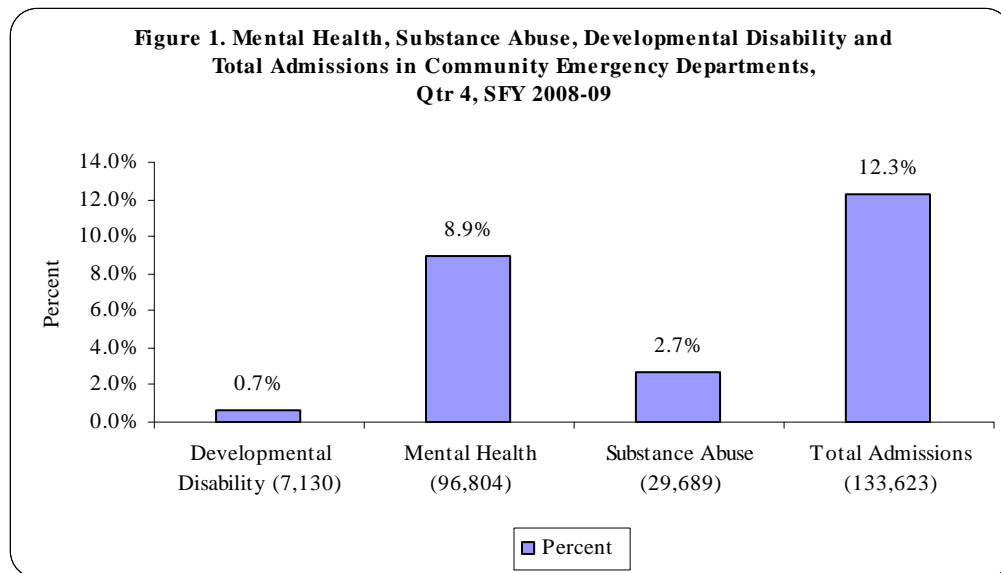
Source: NC DETECT, SFY 2008-09.

Table 3 shows the rate of admissions for individuals with any of the three disability diagnoses (mental health, substance abuse and developmental disability) as 'primary' or 'any listed' by the county of residence of the individual.

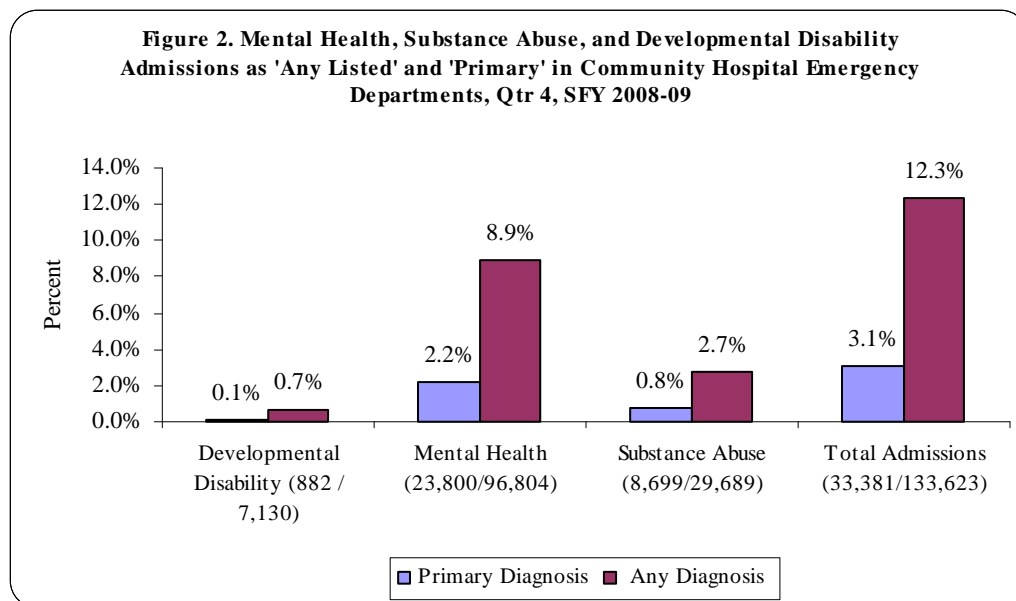
APPENDICES

Appendix A. Graphs and Tables for Quarter 4, 2008-09.

Data utilized to develop all graphs and tables presented in Appendix A has been obtained from the NC-DETECT System and covers the time frame of the 4th quarter of 2008-09.

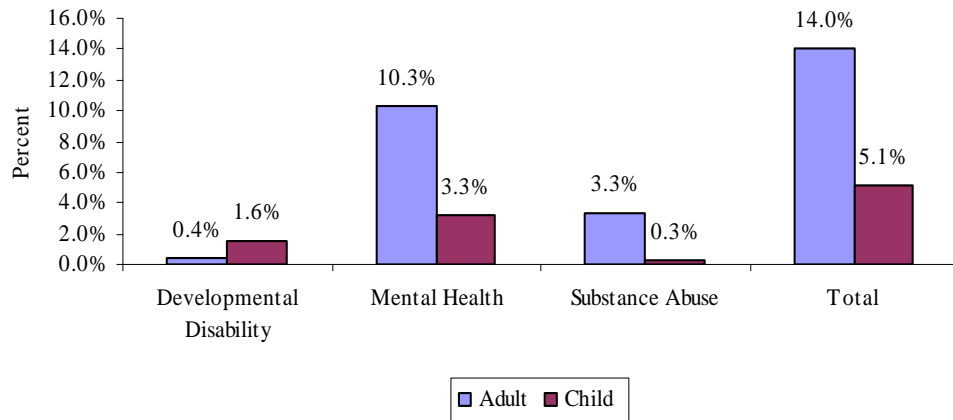


Source: NC DETECT, Qtr 4, SFY 2008-09



Source: NC DETECT, Qtr 4, SFY 2008-09

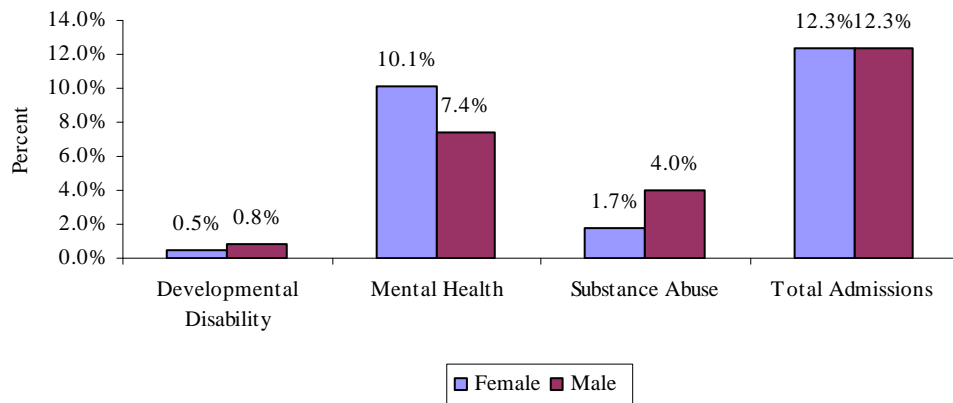
Figure 3. Mental Health, Substance Abuse, Developmental Disability and Total Admissions in Community Emergency Departments by Age group, Qtr 4, SFY 2008-09



Source: NC DETECT, Qtr 4, SFY 2008-09

Note: Percentages are calculated of all adult and all child admissions separately.

Figure 4. Mental Health, Substance Abuse, Developmental Disability and Total Admissions in Community Emergency Departments by Gender, Qtr 4, SFY 2008-09



Source: NC DETECT, Qtr 4, SFY 2008-09

Note: Percentages are calculated as a proportion of all gender specific emergency department admissions

Table 1. Disposition of Individuals with a Mental Health, Substance Abuse and Developmental Disabilities Diagnosis Seen within a Local Emergency Department, Qtr 4, SFY 2008-09

Disability	Admitted*	ICU	Psych	Died	Dis-charged	AMA	Without Advice	Observe	Other*	Transfer*	Not Known	Grand Total
Devel. Disability	1,819	47	89	0	4,647	32	24	38	0	230	0	6,926
Mental Health	26,798	439	2,240	118	55,552	1,222	618	698	238	5,629	90	93,642
Substance Abuse	9,212	231	1,050	25	15,185	557	220	273	143	1,647	18	28,561
Total Admissions	37,829	717	3,379	143	75,384	1,811	862	1,009	381	7,506	108	129,129

Source: NC DETECT, SFY 08-09;

*Note- Disposition 'Admitted' includes hospital floor, isolation bed, CCU, operating room or diagnostic unit; 'Transferred' includes- transfer to prison, jail, general hospital, another type of institution or to home care ; 'Other' category is not clearly defined.

**Table 2. Behavioral Health and Developmental Disability Admissions in Community Emergency Departments
by Local Management Entity, Quarter 4, SFY 2008-09**

LME Name	Developmental Disability	Rate of DD Admissions/ 10,000	Mental Health	Rate of MH Admissions/10,000	Substance Abuse	Rate of SA Admission/10,000
Alamance-Caswell-Rockingham	213	8.2	3,201	123.0	1,088	41.8
Albemarle	107	5.8	1,519	82.1	316	17.1
Beacon Center	110	4.5	1,453	59.3	483	19.7
CenterPoint	347	8.0	4,970	115.0	1,832	42.4
Crossroads	184	6.9	3,434	128.7	710	26.6
Cumberland	271	8.6	3,175	101.0	1,443	45.9
Durham	180	6.9	2,213	85.3	830	32.0
ECBH	294	7.4	3,236	81.1	882	22.1
Eastpointe	358	12.3	3,771	129.1	1,058	36.2
Five County	90	3.9	1,973	84.8	684	29.4
Guilford	135	2.9	2,504	53.4	1,113	23.7
Johnston	137	8.4	1,690	103.9	471	29.0
Mental Health partners	212	8.7	3,839	157.4	981	40.2
Mecklenburg	478	5.4	6,194	69.4	2,583	28.9
Onslow-Carteret	281	12.0	3,144	133.7	877	37.3
Orange-Person-Chatham	163	7.2	1,780	78.2	649	28.5
Pathways	424	11.3	6,621	176.2	1,599	42.6
Piedmont	585	8.2	7,637	106.4	1,988	27.7
Sandhills Center	301	5.6	4,757	88.7	1,541	28.7
Smoky Mountain	212	4.1	5,678	109.4	1,102	21.2
Southeastern Center	302	8.6	3,996	113.9	1,515	43.2
Southeastern Regional	248	9.8	3,620	142.4	1,373	54.0
Wake	709	8.2	6,980	80.5	1,810	20.9
Western Highlands	595	11.9	8,991	179.1	1,828	36.4
Statewide	7,097	7.7	96,376	104.3	29,368	31.8

Source: NC DETECT, SFY 2008-09

Note. LME level totals may differ from statewide estimates due to incompleteness of county level information.

Table 3. Emergency Department Admissions by Age Group and Local Management Entity, Quarter 4, SFY 2008-09

LME Name	Developmental Disability			Mental Health			Substance Abuse			ED Admissions All Causes
	Adult	Child	Total	Adult	Child	Total	Adult	Child	Total	
Alamance-Caswell-Rockingham	102	111	213	2,993	208	3,201	1,073	15	1,088	34,338
Albemarle	63	44	107	1,408	111	1,519	316	0	316	19,759
Beacon Center	51	59	110	1,336	117	1,453	472	11	483	36,592
CenterPoint	185	162	347	4,636	334	4,970	1,794	38	1,832	50,254
Crossroads	107	77	184	3,237	197	3,434	699	11	710	36,026
Cumberland	143	128	271	2,854	321	3,175	1,431	12	1,443	32,535
Durham	93	87	180	2,062	151	2,213	830	0	830	30,104
East Carolina Behavioral Health	142	152	294	2,963	273	3,236	882	0	882	54,065
Eastpointe	153	205	358	3,402	369	3,771	1,038	20	1,058	39,308
Five County	45	45	90	1,874	99	1,973	684	0	684	33,351
Guilford	82	53	135	2,357	147	2,504	1,113	0	1,113	53,228
Johnston	71	66	137	1,566	124	1,690	471	0	471	18,294
Mental Health Partners	99	113	212	3,611	228	3,839	981	0	981	32,686
Mecklenburg	322	156	478	5,869	325	6,194	2,535	48	2,583	84,524
Onslow-Carteret	153	128	281	2,849	295	3,144	863	14	877	22,927
Orange-Person-Chatham	88	75	163	1,668	112	1,780	649	0	649	18,406
Pathways	206	218	424	6,127	494	6,621	1,567	32	1,599	58,268
Piedmont	287	298	585	7,032	605	7,637	1,937	51	1,988	79,452
Sandhills Center	147	154	301	4,406	351	4,757	1,509	32	1,541	69,251
Smoky Mountain	202	171	373	5,347	331	5,678	1,714	0	1,714	65,545
Southeastern Center	169	133	302	3,719	277	3,996	1,501	14	1,515	38,263
Southeastern Regional	119	129	248	3,304	316	3,620	1,350	23	1,373	43,510
Wake	392	317	709	6,450	530	6,980	1,761	49	1,810	73,885
Western Highlands	370	225	595	8,490	501	8,991	1,783	45	1,828	56,994
Statewide	3,791	3,306	7,097	89,560	6,816	96,376	28,953	415	29,368	1,081,565

Source: NC DETECT, Qtr 4, SFY 2008-09

Note. LME level totals may differ from statewide estimates due to incompleteness of county level information.

**Table 4. Mental Health, Substance Abuse and Developmental Disability Admissions in Local Emergency Departments
by County, Quarter 4, SFY 2008-09**

County	Count	Rate per 10,000	County	Count	Rate per 10,000
Alamance	2,512	173.1	Jones	160	154.3
Alexander	547	147.7	Lee	529	92.0
Alleghany	259	231.8	Lenoir	662	115.2
Anson	537	213.5	Lincoln	1,443	193.9
Ashe	145	55.1	Macon	278	62.6
Avery	232	126.4	Madison	429	125.3
Beaufort	582	125.8	Martin	604	292.6
Bertie	74	37.3	McDowell	769	324.2
Bladen	384	118.1	Mecklenburg	8,368	93.7
Brunswick	1,529	146.9	Mitchell	225	141.2
Buncombe	6,308	275.0	Montgomery	210	75.7
Burke	1,559	176.2	Moore	876	102.5
Cabarrus	3,105	182.1	Nash	354	37.7
Caldwell	1,371	171.9	New Hanover	3,088	158.7
Camden	74	75.2	Northampton	238	112.2
Carteret	1,731	271.3	Onslow	2,026	118.3
Caswell	168	71.5	Orange	1,208	93.6
Catawba	2,890	185.9	Pamlico	204	157.5
Chatham	378	62.4	Pasquotank	609	145.7
Cherokee	313	113.8	Pender	474	90.9
Chowan	56	37.9	Perquimans	144	110.4
Clay	78	73.8	Person	669	176.4
Cleveland	3,115	320.7	Pitt	488	31.5
Columbus	815	150.1	Polk	129	67.7
Craven	2,082	213.9	Randolph	1,564	111.3
Cumberland	4,217	134.1	Richmond	654	139.6
Currituck	117	48.0	Robeson	2,779	213.1
Dare	120	34.8	Rockingham	1,332	145.4
Davidson	2,000	126.9	Rowan	1,650	119.9

County	Count	Rate per 10,000	County	Count	Rate per 10,000
Davie	387	93.6	Rutherford	1,246	198.1
Duplin	555	103.3	Sampson	1,139	174.6
Durham	2,891	111.4	Scotland	677	183.3
Edgecombe	203	39.6	Stanly	543	91.5
Forsyth	5,169	150.1	Stokes	715	154.1
Franklin	640	111.0	Surry	1,680	228.4
Gaston	3,183	155.9	Swain	211	149.7
Gates	27	22.3	Transylvania	329	105.7
Graham	98	119.8	Tyrrell	*	*
Granville	543	96.2	Union	1,889	98.2
Greene	132	62.2	Vance	350	80.2
Guilford	3,383	72.2	Wake	8,557	98.7
Halifax	792	144.0	Warren	128	64.4
Harnett	1,204	110.7	Washington	28	21.3
Haywood	1,417	247.2	Watauga	376	83.3
Henderson	1,291	123.8	Wayne	2,273	196.6
Hertford	38	16.0	Wilkes	600	89.1
Hoke	404	90.7	Wilson	1,161	147.6
Hyde	54	100.2	Yadkin	436	114.3
Iredell	1,849	119.1	Yancey	294	156.8
Jackson	356	95.5	Statewide	118690	128.4
Johnston	1,981	121.8			

Source: NC DETECT, Qtr 4, SFY 2008-09

Appendix B. List of Hospitals Contributing Data to NC DETECT

As of March 5, 2009 there are 111 of 112 (99%) hospitals submitting production-level data on a daily basis to NC DETECT.

County	Town	Hospital
Alamance	Burlington	Alamance
Alexander	Taylorsville	Frye Alexander
Alleghany	Sparta	Alleghany
Anson	Wadesboro	Anson
Ashe	Jefferson	Ashe
Avery	Linville	Charles A. Cannon
Beaufort	Washington	Beaufort
Beaufort	Belhaven	Pungo
Bertie	Windsor	Bertie
Bladen	Elizabethtown	Bladen
Brunswick	Supply	Brunswick
Brunswick	Southport	Dosher
Buncombe	Asheville	Mission
Burke	Morganton	Grace
Burke	Valdese	Valdese
Cabarrus	Concord	Northeast
Caldwell	Lenoir	Caldwell
Carteret	Morehead City	Carteret
Catawba	Hickory	Catawba Valley
Catawba	Hickory	Frye
Chatham	Siler City	Chatham
Cherokee	Murphy	Murphy
Chowan	Edenton	Chowan
Cleveland	Shelby	Cleveland
Cleveland	Kings Mountain	Kings Mountain
Columbus	Whiteville	Columbus
Craven	New Bern	Craven
Cumberland	Fayetteville	Cape Fear Valley
Dare	Nags Head	Outer Banks
Davidson	Lexington	Lexington
Davidson	Thomasville	Thomasville
Davie	Mocksville	Davie
Duplin	Kenansville	Duplin
Durham	Durham	Duke
Durham	Durham	Durham Regional
Edgecombe	Tarboro	Heritage
Forsyth	Winston-Salem	Forsyth
Forsyth	Winston-Salem	NCBH
Franklin	Louisburg	Franklin
Gaston	Gastonia	Gaston
Granville	Oxford	Granville
Guilford	High Point	High Point
Guilford	Greensboro	Moses Cone
Guilford	Greensboro	Wesley Long
Halifax	Roanoke Rapids	Halifax

County	Town	Hospital
Halifax	Scotland Neck	Our Community
Harnett	Dunn	Betsy Johnson
Haywood	Clyde	Haywood
Henderson	Hendersonville	Margaret Pardee
Henderson	Fletcher	Park Ridge
Hertford	Ahoskie	Roanoke Chowan
Iredell	Statesville	Davis
Iredell	Statesville	Iredell
Iredell	Mooresville	Lake Norman
Jackson	Sylva	Harris
Johnston	Smithfield	Johnston
Lee	Sanford	Central Carolina
Lenoir	Kinston	Lenoir
Lincoln	Lincolnton	Lincoln
Macon	Franklin	Angel
Macon	Highlands	Highlands
Martin	Williamston	Martin
McDowell	Marion	McDowell
Mecklenburg	Charlotte	CMC
Mecklenburg	Charlotte	CMC Mercy
Mecklenburg	Charlotte	CMC Pineville
Mecklenburg	Charlotte	CMC Univiversity
Mecklenburg	Charlotte	Presbyterian
Mecklenburg	Huntersville	Presbyterian Huntersville
Mecklenburg	Matthews	Presbyterian Matthews
Mitchell	Spruce Pine	Blue Ridge Regional (Spruce Pine)
Montgomery	Troy	FHS Montgomery
Moore	Pinehurst	FHS Moore
Nash	Rocky Mount	Nash
New Hanover	Wilmington	New Hanover
Onslow	Jacksonville	Onslow
Orange	Chapel Hill	UNC Hospitals
Pasquotank	Elizabeth City	Albemarle
Pender	Burgaw	Pender
Person	Roxboro	Person
Pitt	Greenville	Pitt
Polk	Columbus	St Luke
Randolph	Asheboro	Randolph
Richmond	Rockingham	FHS Richmond
Richmond	Hamlet	Sandhills
Robeson	Lumberton	Southeastern
Rockingham	Reidsville	Annie Penn
Rockingham	Eden	Morehead
Rowan	Salisbury	Rowan
Rutherford	Rutherfordton	Rutherford
Sampson	Clinton	Sampson
Scotland	Laurinburg	Scotland

County	Town	Hospital
Stanly	Albemarle	Stanly
Stokes	Danbury	Stokes Reynolds
Surry	Elkin	Hugh Chatham
Surry	Mt. Airy	Northern Surry
Swain	Bryson City	Swain
Transylvania	Brevard	Transylvania
Union	Monroe	Union
Vance	Henderson	Maria Parham
Wake	Raleigh	Duke Raleigh
Wake	Raleigh	Rex
Wake	Apex	WakeMed Apex
Wake	Cary	WakeMed Cary
Wake	Raleigh	WakeMed North
Wake	Raleigh	WakeMed Raleigh
Washington	Plymouth	Washington
Watauga	Blowing Rock	Blowing Rock
Watauga	Boone	Watauga
Wayne	Goldsboro	Wayne
Wilkes	North Wilkesboro	Wilkes
Wilson	Wilson	Wilson
Yadkin	Yadkinville	Hoots

Appendix C: Data Source

What is NC DETECT?

The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is the Web-based early event detection and timely public health surveillance system in the North Carolina Public Health Information Network. NC DETECT uses the CDC's CUSUM algorithms from the Early Aberration Reporting System (EARS) to monitor several data sources for suspicious patterns. The reporting system also provides broader public health surveillance reports for emergency department visits related to hurricanes, injuries, asthma, vaccine-preventable diseases, occupational health and others.

Who develops and manages NC DETECT?

Staff at the UNC Department of Emergency Medicine (UNC DEM), under contract to the North Carolina Division of Public Health (NC DPH) develop and manage NC DETECT. UNC DEM collaborates with NC DPH on all aspects of NC DETECT development.

How is NC DETECT related to NCHESS?

Data from the North Carolina Hospital Emergency Surveillance System (NCHESS) are loaded into NC DETECT (which was formerly known as the North Carolina Bioterrorism and Emerging Infection Prevention System, NC BEIPS). The NC DETECT team at the UNC Department of Emergency Medicine monitors the quality of the NCHESS data and work with hospitals, their vendors and the North Carolina Hospital Association (NCHA) to ensure NC DETECT users have access to the most accurate data possible.

How have North Carolinians benefited from NC DETECT?

With NC DETECT, public health officials at the local, regional and state levels are able to monitor a variety of important public health issues in a secure and timely fashion, including influenza, post-hurricane health issues, injury and violence, and vaccine-preventable disease surveillance. For example, NC DETECT users have monitored illness and injury effects after hurricanes Isabel and Ophelia, analyzed ED use at select hospitals by Katrina evacuees, and uncovered unreported cases of tuberculosis. Before NC DETECT, similar surveillance was either simply not performed, relied on manual, redundant data entry, or had a considerable time lag. A summary of specific [NC DETECT outcomes](#) is also available. Since NC DETECT is designed to uncover suspicious patterns of illness in both human and animal populations, it is a key tool in the early detection of emerging infectious diseases, such as new strains of influenza.

Who pays for NC DETECT?

NC DETECT is funded from federal bioterrorism grants administered through the Centers for Disease Control and Prevention and disbursed by the North Carolina Department of Health and Human Services, Division of Public Health.

For more Information: ncdetect@listserv.med.unc.edu, (919) 843-2361

Appendix D: ICD-9 codes

ICD-9 codes that are used to categorize each of the three disabilities are listed below. The **International Statistical Classification of Diseases and Related Health Problems** (most commonly known by the abbreviation **ICD**) provides codes to classify [diseases](#) and a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or disease.

ICD code grouping	Description of category
Mental Health	
290.00- 290.99	Dementia/Delusional psychosis
293.00-293.99	Organic delirium/delusions
294.00-294.99	Dementia/Organic brain syndrome
295.00-295.99	Schizophrenia
296.00-296.99	Manic depressive disorder
297.00-297.99	Paranoia
298.00-298.99	Unspecified psychosis
299.00-299.99	Childhood psychosis
300.00-300.99	Neurotic disorders
301.00-301.99	Personality disorder
302.00-302.99	Psychosexual disorders
306.00-306.99	Physiological malfunction from mental disorders
307.00-307.99	Sleeping order/eating disorder
308.00-308.99	Predominant emotional disturbance
309.00-309.99	Brief/prolonged depressive reaction
310.00-312.99	Conduct disorder
313.00-314.99	Emotional disturbance of childhood or adolescence
799.9	Other MH /unknown/unspecified
995.50-995.89	Child/adult abuse/neglect
Substance Use and Abuse	
292.00-292.99	Drug induced psychosis
304.00-304.99	Drug dependence
305.20-305.99	Drug abuse
291.00-291.99	Alcohol-related psychosis
303.00-303.99	Alcohol dependence
305.00-305.03	Alcohol abuse
Developmental Disabilities	
315.00-315.99	Developmental disabilities
V79.0-V79.9	Range of DD early childhood/DD- unspecified
314.01	Hyperkinesias with DD
740-759	Congenital anomalies
317.00	Mild mental retardation
318.00	Moderate mental retardation
318.10	Severe mental retardation
318.20	Profound mental retardation
319.00	Mental retardation, severity unspecified

The DMH/DD/SAS *Mental Health, Developmental Disabilities and Substance Abuse Related Admissions in Community Emergency Departments, Quarterly Report* is published four times a year.

All reports are available on the Division's website:

<http://www.ncdhhs.gov/mhddsas/statspublications/reports/>

Questions and feedback should be directed to:
NC DMH/DD/SAS Quality Management Team

ContactDMHQuality@ncmail.net

Or

(919)-733-0696

